

REMARKS

Claims 1-3 are all the claims pending in the application. Claims 1-3 presently stand rejected. Claim 1 is the only independent claim.

Objection to the Specification

The disclosure is objected to because of informalities at page 2-5 of the specification.

Further, the reference numerals “18A” and “18B” are used but not in the present figures. The Examiner asserts that it appears these may have been intended to be “18A” and “18B” in view of FIG. 1. In response, Applicant has amended the specification so that the instances of “18A” and “18B” are replaced with “14A” and “14B.”

Claim Rejection Under 35 U.S.C. § 112

Claims 1-3 are rejected under 35 U.S.C. § 112, second paragraph.

The Examiner asserts that the phrase “transverse direction” in independent claim 1 is unclear. Therefore, in response, Applicant has amended claim 1 to recite transverse direction -- of the reinforcing material--.

The Examiner also asserts that the recitations “one side” in a peripheral direction of the drum” and “another side” in the peripheral direction of the drum of claim 1 are indefinite and confusing. Therefore, in response, Applicant has amended claim 1 to recite one side of the drum and another side of the drum, the one side *provided opposite* the other side *with respect to the radial direction of the drum.*¹

¹ For example, FIG. 1 shows that the upper conveying path 72U conveys reinforcing material pieces 12A toward an upper side of the drum 16, while the lower conveying path 72D conveys reinforcing ... (footnote continued)

With respect to dependent claim 3, the Examiner asserts that the two similar limitations regarding the “first moving means” render the claims unclear. Applicant has deleted the first of the two similar limitations.

In view of these amendments, which do not change the scope of subject matter claimed, Applicant respectfully requests the Examiner to withdraw the rejection under 35 U.S.C. § 112, second paragraph.

C. Claim Rejection Under 35 U.S.C. § 102

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as being obvious over JP 2001-105509 to Yokohama Rubber (JP ‘509).

Applicant has amended independent claim 1 to recite that the axial direction moving means moves at least one of either the first conveying path or the second conveying path along an axial direction of the drum, *while discharging the reinforcing material from the one of either the first conveying path or the second conveying path to the rotating drum.* This amendment is supported in the original specification at least by the exemplary embodiment shown in FIG. 1, in which conveying guide 72 both moves the conveying path 72 U, 72D and discharges the strips 12A to the rotating drum 16.

Applicant respectfully requests the Examiner to withdraw the rejection of independent claim 1 at least because JP ‘509 does not disclose or suggest all of the claim’s recitations. Or example, JP ‘509 does not disclose or suggest the claimed tire reinforcing layer forming device including an axial direction moving means that moves at least one of either the first conveying

material pieces 12A toward a lower side of the drum 16, i.e., one side that is opposite the other side with respect to the radial direction of the drum 16.

path or the second conveying path along an axial direction of the drum, *while discharging the reinforcing material from the one of either the first conveying path or the second conveying path to the rotating drum.* The claimed device efficiently performs the functions of saving space for the placement of manufacturing facilities and reducing manufacturing costs.

FIG. 1 of JP ‘509 discloses a device for producing plural belt layers including a drum 8, a gravity roller conveyor C that conveys a strip material S, and cutting equipment 6 that cuts the strip S into a plurality of strips Sa. The strips Sa are fed to upper and lower conveyors 7a, 7b, which are asserted by the Examiner as corresponding to the first and second conveying paths, by movement of the gravity roller conveyor C, as shown in FIG. 2.

Although JP ‘509 may disclose a belt supplying device that moves in a horizontal direction, the horizontal movement of the upper and/or lower conveyors 7a, 7b is merely meant to achieve the step amount of the width between the side portions of the first and second belt material, before supplying the belt material to the drum. Therefore, JP ‘509 does not teach nor suggest the recited axial direction moving means that moves at least one of either the first conveying path or the second conveying path along an axial direction of the drum, *while discharging the reinforcing material from the one of either the first conveying path or the second conveying path to the rotating drum.*

In addition, JP ‘509 is configured to supply, in the peripheral direction of the drum, previously prepared belt material strips that continue in their respective directions, via the conveyor. In contrast, the device of claim 1 is configured to attach the plural reinforcing materials in unbroken sequence in the peripheral direction of the drum.

Thus, Applicant respectfully requests the Examiner to withdraw the §102 rejection of claim 1.

In addition, Applicant respectfully requests the Examiner to withdraw the §102 rejection of claims 2 and 3 at least because of their dependency from claim 1.

Claim Rejections Under 35 U.S.C. § 102

Suda in view of Hitotsuyanagi

Claims 1-3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Suda et al. (US 2003/0051794) taken alone or further in view of Hitotsuyanagi et al. (US 2002/0046796).

Applicant respectfully requests the Examiner to withdraw this rejection of independent claim 1 at least because there is no combination of Suda and Hitotsuyanagi that would meet all of the claim's recitations.

The Examiner has mixed and matched the features of two separate embodiments of Suda in this rejection. However, there is no combination of Suda and Tourtellotte that would reasonably meet all of the recitations of claim 1. For example, there is no combination of Suda and Hitotsuyanagi that would reasonably meet the claimed device including a first conveying path provided at a reinforcing material conveying direction downstream side of the cutting means, and guiding the reinforcing material toward one side of the drum; and a second conveying path provided at the reinforcing material conveying direction downstream side of the cutting means, and guiding the reinforcing material toward another side of the drum, *the one side provided opposite to the other side with respect to a radial direction of the drum.*

FIGS. 19 and 20 of Suda disclose a device for producing a tire structural member including a conveyor belt 205, pull rollers 230 that convey a continuous strip 202 toward a cutter

232, and guide rollers 236, 238 that guide the cut strips toward the conveyor belt 105. The guide rollers are provided within an inner case than is shifted in the axially. As shown in FIG. 21, the strip 202 is cut by the cutter at an oblique angle.² This embodiment of Suda is deficient at least because *it does not include a drum*. Because there is no disclosure of a drum, the guide rollers cannot guide the cut strips to *opposite sides* of the drum.

FIGS. 14 and 15 of Suda disclose a device for producing a tire structural member including a drum 105, pull rollers 157 that convey a continuous strip 102 toward a cutter 159, and guide rollers 153, 154 that guide the cut strips toward the drum 105. The guide rollers are provided within an inner case than is shifted in the axial direction.³ Although this embodiment does have a drum 105, there is no disclosure that the strip 102 is cut by the cutter 159 at an *oblique angle with respect to the strip*.

Moreover, the rollers 236, 238 (asserted as first and second conveying paths) do not guide the cut strips to one side and to another side of the drum, *the one side provided opposite to the other side with respect to a radial direction of the drum*. Instead, as shown in FIGS. 19, 20, 23, and 24, the strips appear to be provided at a *same side with respect to the radial direction of the drum*. Specifically, the strips in this embodiment are provided in opposite directions on the conveyor 205 by rotating the strip laying head 220.⁴

The Examiner acknowledges that Suda does not disclose a drum able to rotate in both forward and reverse directions. Instead, as shown in FIGS. 11 and 12 of Suda, the drum 102

² See Suda at page 10, paragraphs [0120]-[0121].

³ See Suda at page 9, lines [0106].

⁴ See Suda at FIG. 24.

only rotates in one direction. Therefore, the Examiner looks to Hitotsuyanagi. Hitotsuyanagi discloses a carcass ply producing apparatus with a flat plate-like tray 17 that is able to move in forward and reverse directions.⁵ However, the tray 17 of Hitotsuyanagi is no more pertinent than Suda's conveyor belt 205, which also can move in forward and reverse directions.

Specifically, neither of these references discloses a first conveying path for guiding the reinforcing material toward one side of the drum and a second conveying path for guiding the reinforcing material toward another side of the drum, *the one side provided opposite to the other side with respect to a radial direction of the drum.*

Thus, Applicant respectfully requests the Examiner to withdraw this rejection of claim 1.

In addition, Applicant respectfully requests the Examiner to withdraw this rejection of claims 2 and 3 at least because of their dependency from claim 1.

Tourtellotte in view of JP '509

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Tourtellotte et al. (US 3,071,179) taken in view of JP '509.

Applicant respectfully requests the Examiner to withdraw the rejection of independent claim 1 at least because there is no combination of Tourtellotte and JP '509 that would reasonably disclose or suggest all of the claim's recitations. For example, neither Tourtellotte nor JP '509 discloses or suggest the claimed tire reinforcing layer forming device including an axial direction moving means that moves at least one of either the first conveying path or the second conveying path along an axial direction of the drum, *while discharging the reinforcing*

⁵ See Hitotsuyanagi at FIG. 8.

material from the one of either the first conveying path or the second conveying path to the rotating drum.

That is, the Examiner acknowledges that the applying means D and E of Tourtellotte are not moved in the axial direction. Therefore, the Examiner looks to the conveyors 7a, 7b of JP ‘509.

As discussed above with respect to the §102 rejection, although JP ‘509 may disclose a belt supplying device that moves in a horizontal direction, the horizontal movement of the upper and/or lower conveyors 7a, 7b is merely meant to achieve the step amount of the width between the side portions of the first and second belt material, before supplying the belt material to the drum. Therefore, neither nor JP ‘509 teaches nor suggests the recited axial direction moving means that moves at least one of either the first conveying path or the second conveying path along an axial direction of the drum, *while discharging the reinforcing material from the one of either the first conveying path or the second conveying path to the rotating drum.*

In addition, both Tourtellotte and JP ‘509 are configured to supply, in the peripheral direction of the drum, previously prepared belt material strips that continue in their respective directions, via the conveyor. In contrast, the device of claim 1 is configured to attach the plural reinforcing materials in unbroken sequence in the peripheral direction of the drum.

Thus, Applicant respectfully requests the Examiner to withdraw this rejection of claim 1.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.111
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Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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